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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,472	10/31/2003	Donald A. Powell	TI-34904	2765
23494 7590 05/18/2007 TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				
			EXAMINER PASCAL, LESLIE C	
			ART UNIT 2613	PAPER NUMBER
			NOTIFICATION DATE 05/18/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com  
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## Office Action Summary

Application No.

10/699,472

Applicant(s)

POWELL ET AL.

Examiner

Leslie Pascal

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10-31-03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims appear to be misdescriptive and vague. The applicant claims that the devices disperse and focus channels "in a direction". This is unclear. For example, the second light directing devices focuses the channels "in the dispersive direction". When looking at the second dispersive device (170) it does not send the signals in the same direction as the dispersive means (140). It appears that the term "direction" is misdescriptive. From the specification, it appears that the applicant means "axis" yet the input axis to element 170 appears to be the same as the output axis. It is unclear what is meant by "a dispersive direction" and a "non dispersive direction". Further, the second light-directing device does not appear to "focus the channels on the light modulating device. Other elements do this (160). In regard to claim 14, the applicant claims "a method of modulating" yet NO MODULTION IS DONE in the claims.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the memes mirror array if claims 2 and 15; the first and second light directing devices, which are reflective devices of claims 8-10, and 22-24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

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Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Golub et al (20040156581).

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Golub et al teach a collimator means (106), dispersive device (108), first light directing device (110 or 112), second directing device (118 or 120), which is projected onto a MEMS device (122). Although Golub et al does not specifically teach that his device is a modulator; the applicant only claims that the signal is sent to a modulator/MEMs device. Further, it is well known to use a MEMs device as a modulator and would have been obvious. In regard to claim 3, see paragraph 76. In regard to claims 4-7 and 8-10, the applicant does not teach that it is critical that the lenses and reflective means are shaped as such (see applicants' paragraph 14). Further, in regard to claims 4-7 and 8-10, in that the applicant teaches that it is not critical whether the applicant uses reflective or refractive means, it would have been obvious to use either. If the applicant does not feel that this is the case, it appears that there should be a species requirement. In regard to claims 7 and 10, it would appear that the second device would operate as intended if it was at the focal length of the first lens. In regard to the directions claimed, it is unclear from the specification and the claims what is meant by direction, for example, the applicant claims that the dispersion and nondispersive directions are perpendicular, yet in the figure, the signals are passed through the means (which is not perpendicular). If the applicant were trying to claim that the axis is perpendicular, it would appear obvious that the reference operates in a similar manner to the applicants'. . In regard to claim 2, in that the reference has all of the same means as the applicants' it appears that it operates as a gain equalizer also. This is functional language with no specifics as to what is providing the function.

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6. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brophy et al (7162115)

In figure 5, Brophy et al teach a collimator means (20, 110 and/or lens on the left), a dispersion device (130), a first refractive light directing device (tall lens on the right of element 130), a second light refractive directing device (small lens) and MEMs device (200). Although Brophy et al does not specifically teach that his device is a modulator; the applicant only claims that the signal is sent to a modulator/MEMs device. Further, it is well known to use a MEMs device as a modulator and would have been obvious. In regard to claims 4-7 and 8-10, the applicant does not teach that it is critical that the lenses and reflective means are shaped as such (see applicants' paragraph 14. Further, in regard to claims 4-7 and 8-10, in that the applicant teaches that it is not critical whether the applicant uses reflective or refractive means, it would have been obvious to use either. If the applicant does not feel that this is the case, it appears that there should be a species requirement. In regard to claims 7 and 10, it would appear that the second device would operate as intended if it was at the focal length of the first lens. In regard to the directions claimed, it is unclear from the specification and the claims what is meant by direction, for example, the applicant claims that the dispersion and nondispersive directions are perpendicular, yet in the figure, the signals are passed through the means (which is not perpendicular). If the applicant were trying to claim that the axis is perpendicular, it would appear obvious that the reference operates in a similar manner to the applicants'. In

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regard to claim 2, in that the reference has all of the same means as the applicants' it appears that it operates as a gain equalizer also.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Szczepanek et al (20040008401) teaches modulation using Mems device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Pascal whose telephone number is 571-272-3032. The examiner can normally be reached on Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink that reads "Leslie Pascal". The signature is written in a cursive style with a large, stylized 'L' and 'P'.

Leslie Pascal  
Primary Examiner  
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